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REMARKS

This is responsive to the Office Action mailed on August 18, 2005. The Office Action rejected claims 1, 3, 4, 8-10, 13, 15, 34, 35 and 38-46, allowed claims 28, 29, 33 and 41-44 and objected to claims 14, 36 and 37. Applicants have amended claims 1, 8, 9, 10, 45 and 46. The present application includes claims 1, 3, 4, 8-10, 13-15, 28, 29 and 33-46.

In the Office Action, the Examiner rejected claims 1, 3, 4, 8, 9, 15 and 45-46 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,308,614 (hereinafter the Cahalan patent). The Office Action alleges that the Cahalan patent discloses a substrate as claimed, being the polyalkylimine-coated tissue or other base material of Calahan, and the growth factors are coated via glutaraldehyde (a difunctional aldehyde crosslinking agent) to it. The Office Action references col. 4, l. 20-43, col. 6, l. 8-28, and the Abstract. The Office Action also alleges that the Cahalan patent discloses that one purpose of the surface treatment is to "promote the attachment and growth of normal cell layers" and references col. 1, l. 33-43. The Office Action concludes that the Cahalan patent discloses stimulating the "association of viable cells with the substrate" as claimed.

Applicants respectfully assert that independent claim 1, as amended, is not anticipated by the Cahalan patent, as alleged in the Office Action. Elements of independent claim 1 include directly associating a natural tissue and a polypeptide growth factor by covalent bonds using a crosslinking agent comprising at least two aldehyde functional groups that form covalent bonds.

There is no disclosure in the Cahalan patent of directly covalently bonding polypeptide growth factor to a natural tissue as claimed. Rather, the Cahalan patent discloses a substrate having one end of a polyalkylimine spacer attached to the substrate and another end of the polyalkylimine attached to a polypeptide growth factor. Polyalkylimine is not natural tissue and therefore, the Cahalan patent does not disclose

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direct covalent bonding of a polypeptide growth factor to a natural tissue, an element of claim 1.

For the foregoing reasons, the Cahalan patent does not disclose each and every element of claim 1, as amended, and does not anticipate independent claim 1, as amended. Reconsideration and allowance of claim 1, as amended, are respectfully requested.

Since independent claim 1 is not anticipated by the Cahalan patent, dependent claims 3, 4, 8, 9 and 15, which depend from independent claim 1, are also not anticipated by the Cahalan patent because each of the dependent claims include every element of independent claim 1. Because the Cahalan patent does not disclose each and every element of independent claim 1, it follows that the dependent claims are also not anticipated by the Cahalan patent. Reconsideration and allowance of dependent claims 3, 4, 8, 9, and 13-15 are respectfully requested.

The Office Action also rejected dependent claim 10 as being obvious over the Cahalan patent in view of U.S. Patent No. 5,613,982 (hereinafter the Goldstein patent). Because claim 10 depends from independent claim 1, the obviousness rejection of dependent claim 10 is moot in light of the present amendment. Reconsideration and allowance of claim 10 are respectfully requested.

The Office Action also rejected dependent claim 13 as being obvious over the Cahalan patent in view of European Patent Application No. EP0476983 (hereinafter the Bayne application). Because claim 13 depends from independent claim 1, the obviousness rejection of dependent claim 13 is moot in light of the present amendment. Reconsideration and allowance of claim 13 are respectfully requested.

The Office Action also rejected independent claim 45 for the reasons stated with respect to independent claim 1. Applicants respectfully assert that independent claim 45, as amended, is not anticipated by the Cahalan patent.

An element of independent claim 45, as amended, includes a biological matrix directly covalently bonded to a polypeptide growth factor with a cross linking

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agent comprising at least two aldehyde functional groups. Also, there is no disclosure in the Cahalan patent of a biological matrix being utilized as a substrate.

Rather, the Cahalan patent discloses a substrate having one end of a polyalkylimine spacer attached to the substrate and a polypeptide growth factor attached to the other end of the spacer. There is no disclosure in the Cahalan patent of directly attaching a biological matrix directly to the polypeptide growth factor with a crosslinking agent comprising at least two aldehyde functional groups. Further, there is no disclosure in the Cahalan patent of a substrate comprising a biological matrix as defined in claim 45. Therefore, the Cahalan patent does not disclose each and every element of claim 45.

For the foregoing reasons, independent claim 45 is not anticipated by the Cahalan patent. Reconsideration and allowance of independent claim 45 is respectfully requested.

The Office Action also rejected independent claim 46 for the reasons stated with respect to independent claim 1. Applicants respectfully assert that independent claim 46, as amended, is not anticipated by the Cahalan patent.

An element of independent claim 46 includes a substrate, the substrate not including a linker molecule attached thereto, being attached to a polypeptide growth factor with a crosslinking agent comprising two aldehyde functional groups that directly covalently bond the crosslinking agent with the substrate. There is no disclosure in the Cahalan patent of directly bonding a substrate without a linker molecule attached thereto, as defined in independent claim 46, with a polypeptide growth factor as defined in independent claim 46. Rather, the Cahalan patent discloses bonding a polypeptide growth factor to a spacer comprising polyalkylimine.

The spacer disclosed in the Cahalan patent is the same or an equivalent of a linker molecule as claimed. Therefore, there is no disclosure in the Cahalan patent of directly bonding the polypeptide growth factor to the substrate without a linker molecule as claimed.

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Therefore, the Cahalan patent does not disclose each and every element of claim 46. As such, the Cahalan patent does not anticipate claim 46. Reconsideration and allowance of independent claim 46 are respectfully requested.

In response to the double patenting rejection, Applicants submit that it may file a terminal disclaimer in the event that both the present application and copending application 09/014,087 issue into patents.

CONCLUSION

For the foregoing reasons, the present invention is believed to be in allowance form. Reconsideration and allowance of the claims are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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